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Comparative Functional Morphology in Primates: An Introduction to the Special Issue

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Abstract: An introduction to the Special Issue.

Comparative Functional Morphology in Primates.

Functional Morphology (FM) has been one of the most effective tools in the study of human and non-human primate evolution. Investigations have been conducted within this discipline for more than 100 years. There have been murmurs recently, however, over its contemporary relevance and effectiveness. Given its age, it could be argued that FM is far from the frontiers of biological science, but is it so far behind the times as to be irrelevant? The answer is absolutely “No”. With advances in recent methodologies, such as micro-computed tomography (μ -CT), functional magnetic resonance imaging (fMRI), motion analysis and high fidelity simulation, FM has entered a new phase. For example, new equipment enables us to observe the internal structures and/or composition of the body or skeleton (e.g., trabecular bone conformation) without destroying the specimens. Similarly, progress in motion analysis has enabled precise measurement of diversity of motion in more natural conditions, such that various aspects of primate behaviour can be analyzed, not only in the laboratory, but also in zoo enclosures or wild habitats. Far from being outmoded, FM is now undergoing such a large-scale evolution that it can be called a paradigm shift, engaging with such diverse aspects of the biology of primates as ecology, physiology, cognition, phylogeny, palaeontology, welfare and conservation.

To explore these new areas of research, the organizers invited a number of first, second, and even third generation researchers in this discipline to the cathedral town of Durham, U.K., for a symposium entitled “Comparative Functional Morphology in Primates.” Held as a post-Congress workshop of the 2008 International Primatological Society conference in Edinburgh, 22 oral and 6 poster presentations were offered by over 50 participants from North America, EU countries, and Asia. Attendees exchanged knowledge (methodologies, resources, and results) and ideas to further advance FM in understanding adaptive aspects of primate evolution. The participants, working at the frontiers of FM, are seeking to understand primate evolution from diverse points of view. We offer a number of their works here. We also extend our thanks to the organizing committee of IPS2008 and Durham University, without both of whom the conference could not have taken place, and to the Editor for making this special issue a reality.

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